



**ROLE OF TECHNICAL AND VOCATIONAL  
EDUCATION TEACHER AS A SAFETY  
MANAGER IN TECHNICAL COLLEGES**

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**Abstract**

*The issue of the safety of students and facilities in our technical colleges and vocational schools is becoming more important due largely to the rapid technological development taking place across the globe. Nigeria is in a dire need to have a place among the first 20 most developed nations if the world by the year 2020. This desire poses a greater challenge to the technology/vocational (TVE) teacher in the area of the safety of students and facilities, since they occupy a central position in the training of low and middle level manpower in the economy. This responsibility placed on TVE teachers demands a high level of education, such as accident prevention, care of facilities and handling accidents when they occur. This paper advocates three major roles of the TVE teacher in ensuring the safety of students and facilities in technical and vocational education institutions. Some recommendations were*

*made which, if adopted and practiced, would go a long way in ensuring the safety of both students and facilities in our nation's technical and vocational institutions.*

**Keywords:** Safety, Technical Colleges, Vocational Education Teacher, Safety Manager

## **Introduction**

Safety was not considered to be a matter of public concern in the ancient times. Accidents were considered as supernatural phenomena, which man could do anything about. According to Encyclopaedia Britannica, the modern notion of safety developed in the 19<sup>th</sup> century as a result of the industrial revolution in Europe, a period during which terrible factory accidents claimed thousands of lives.

Nigeria has set for itself a new vision 2020. The heart desire of the people and government is to move away from the present state of development and move to a new status of belonging to the 20 most industrialized nations of the world. During the process of realizing the vision, it is obvious that a huge quantity of dust and noxious gases would be released into the environment, thousands of decibels of noise would fill the air and a large unwanted quantity of radiation would be represented in industries. All the hazards and others not mentioned would cause a large number of human casualties and damage to physical infrastructure (Apagu, Bulama and Diraso 2000).

Technology and vocational education (TVE) at both secondary and tertiary levels of education is an effective instrument for developing the required human resources for national vision. The national policy on education (2004) defined TVE as the study of technologies for the acquisition of the practical skills, attitudes, understanding and knowledge related to occupations in various sectors of the economic and social life of citizens. Furthermore, the policy sees TVE as a means of preparing citizens for various occupational fields and for effective participation in the world of work. It is also seen as an instrument for promoting environmentally friendly production processes for sustainable development.

In order to effectively achieve the goals of TVE, the policy specified a number trades courses which, among others, are mechanic, computer, building, woodwork, hospitality and textile trade. Others are printing, beauty culture, business and leather trades. All these trades involve the use of dangerous equipment and chemical that can affect the health of human resources engaged in various process of production. All the safety problems can be reduced by putting in place proactive safety strategies, so that causality can be reduced to the barest minimum.

The TVE teacher is at the centre of the implementation of the technical and vocational education curriculum. Various scholars, such as Uga (1996), Okoro (1999) and Okrie (2001), agree that the TVE teacher has the responsibility of meeting the goals of the TVE

curriculum, including the development of safety consciousness and accident prevention during practical lessons. The teacher has the enormous task of ensuring the safety of the facilities as he strives to implement the curriculum.

This paper aims at discussing the roles of the teacher as a safety manager in ensuring the safety of students and facilities in schools. Specifically accident prevention, accidents scene and post-accident roles are being considered for improving safety during the training process.

### **Technical and Vocational Teachers**

The Technical and Vocational Education teacher occupies a most important place in the modern society because he is the link between the industries, the society and the educational system. Etuk (1987) is of the view that the quality of TVE depends upon the teacher. The teacher should be devoted to excellence in the discharge of the overall goals of TVE. The competence of TVE teachers is an important factor for the implementation of the TVE curriculum. Okrie (2001) advised that the teachers should be well educated in the various form of TVE to ensure the effective teaching of the theoretical and practical aspect of this form of education. The competence factor enables the teacher to play an effective role in safeguarding lives and the facilities used in imparting the required skills for self reliance and development for technology in the country.

### **The Role of the TVE as a Safety Manager**

The prevention of accidents in a college workshop is the duty of every staff and students working in the workshop. The TVE Teacher's role as a safety manager in ensuring the safety of others, including him as well as the facilities, is of particular importance. This is because he is like a captain of a ship; he directs, coordinates and organizes the affairs of the workshop. Nick (2007) believes that frequent accidents in the workshops lead to loss of confidence by students and staff, thereby discouraging learning and production processes.

It is therefore necessary for accidents to be reduced through involving both students and staff in discussing under the effective leadership of TVE teachers. This paper discusses the three major roles of TVE teacher as a safety manager in ensuring the safety of students and workshop facilities. The roles are accidents prevention, accident scene role and post-accidents role. Each of the roles is discussed in detail.

## **1. Accident Prevention Role**

The international labour organization (ILO, 2005) in a statistics of occupation accidents across the globe, stated that 2.2 million men and women are victims of work-related accidents or diseases every year. Deaths due to work related accidents and illness represent 3.9 percent of all deaths across the globe. The TVE teacher by virtue of his profession as a teacher potential workforce in the industry can play a significant role in instilling safety consciousness to students at an early stage. This will go a long way in accident prevention through the identification of the causes of accidents, educating staff

and students, the identification and control of hazards, safety inspection programme and enforcement of safety rules and the use of protective wear. A bird's eye view of each of them will be made.

**(a) The Identification of causes of Accidents**

Accidents are caused mainly as a result of human and employer or management factors. Ibadode (2011) enumerated some of the major causes of accidents in the workplace and school workshops. They include:

- i. Insufficient skills among the workforce
- ii. Lack of adequate safety knowledge in relation to the job at hand
- iii. Poor work habit and attitude when carrying out specific jobs, which may require proper work habits.
- iv. Unsafe behaviour among students and the workforce in a school and
- v. Hazards that exist in the work environment

**(b) The Identification and Control of Hazards**

This is the next preventive role that the TVE teacher needs to embark upon to ensure the safety of students, staff and facilities. Ibadode (2001) defined hazard as any condition which causes actual or an potential loss or

damage or undesirable effect on human capital and infrastructure in a workplace. Hazard may come in any of the following forms: - physical, biological, ergonomical, psychosocial and mechanical.

The identification of hazard by the TVE teacher is made through the training he received during his technical teacher training program, experience on the job and the regular inspection of workshop facilities and observations of students and staff activities during working sessions. After identifying the hazardous conditions, the TVE teacher need to evaluate the situation with the aim of:

1. Determination of the possibility of an identified hazard occurring
2. Quantifying the hazard such that if it happened how serious the effect would be on students, staff and facilities.
3. Proposing a solution to nullify the effect of the hazardous condition on students, staff and facilities (Ashfah 1994).

Hazard control involves the effective implementation of solutions from the hazard evaluation process. FRN involves the effective implementation of solutions from the hazard evaluation process. FRN (1990) spelt out clearly workplace hazard control that can serve a very useful purpose in controlling hazardous conditions in the workplace.

### **(c) Educating Student and Staff**

The TVE teacher can prevent or reduce the rate of accidents by educating the students and staff. William (1998) posited that such education can bring about modification on safety behaviour. This, according to him, can be achieved through;

- i. Organizing safety training workshops, seminars, conferences, etc. Resource persons from industry and universities can be invited to make presentations; this will give the opportunity for the student to interact freely with safety experts.
- ii. Staging safety awareness campaigns through drama, the display of safety posters at strategic places in the workshop and the distribution of safety handbills.
- iii. Organizing award ceremony to reward staff and students who exhibit exceptional safety attitudes and actions within a specified period of time. This would go a long way in motivating the beneficiaries.

During any safety training campaign program, FRN (1990) recommends that emphasis should be replaced on:

- a. personal safety requirements, such as personal hygiene and the use of the appropriate safety wear in the school workshop and workplace.

- b. machine tools and equipment safety requirements, such as observance of the carrying capacities of machines, operational procedures and safety requirements in handling each and every machine and equipment.
- c. observance of environment safety rules, such as the effective use of ventilation and illumination provided, the effective use of emergency exits when the need arises and proper staking materials in the workshop and work environment.

**(d) Safety Inspection Programme**

This is a major accident preventive role of TVE in a workshop set up. The George Mason University safety office recommends the appointment of a supervisor in each unit of a workshop to carry out the following responsibilities under the careful supervision of a TVE teacher;

- i. Proper instruction on safety matters to newcomers and visitors in hazard-prone areas.
- ii. Effective use of safety checks to make sure that all the safety factors are properly inspected.
- iii. Keeping accurate records of accidents and their causes and taking effective action where special trends appear.
- iv. Putting in place a system where everybody feels he/she is part of the safety programme in the

workshop through the rotation of the inspection exercise no matter how small the exercise appears and

- v. Effective supervision of the appointed safety supervisors or inspectors.

**(e) Enforcing Safety Rule and the Use of Protective Wears**

In enforcing FRN (1990) should require that all the safety rules regulations in workshops and workplace must be enforced to the latter to ensure the safety of the students, staff and facilities. All the aspects of the rules and regulations, such as general safety rules and regulations, are in relation to the repair of mechanisms, fire protection strategies and prevention if electric shock. A committed TVE teacher strives to ensure that all the safety rules and regulations are strictly obeyed. Protective wear and equipment protect the worker or student from direct bodily harm or injuries. Tomhnson (2008 in Shehu, 2008) categorized the wear and equipment, as shown in table 1.

**Table 1: Personal protective safety equipment, parts of the body protected and hands**

sn	Body part group	Protective equipment	Hazard(s)
1	Eye & Face	Safety glasses splash-proof goggle, impact goggle, face screen,	Dust, electric flash, flying objects and rays.

		welder's mask etc	
2	Head	Hard hat, bandanna, flame retardant cap, leather cap, acid proof hoods, hair net etc.	Falling objects, hair catching in a rotating parts of machines.
3	Ear/Mouth	Plugs and Muffs, protective masks, gas respiratory, dust cartridge.	Noise, toxic and non-toxic dust.
4	Hand and Arms	Gloves (Leather, Abestos, Synthetic and metal mesh sleeves and ganlets.	Heavy or sharp objects, rough surface, spark from welding burns etc.
6	Body	Boiler suits, ware house coat	Dust or dirty

**Source:** Shehu, 2008

## **2. Accident Scene Role**

The provisions in FRN (1990) address accidents and industrial diseases. The TVE teacher should adhere to these provisions. Accidents in the workplace and school according to the provisions include cuts, bruises, injury with profuse bleeding, burns and carbon monoxide poisoning. Others are the fracture of bones, electric shock and eye injury. If all efforts to prevent accidents fail and any of these accidents occurs the TVE teacher as a safety manager has to play a major role in taking care of the situation, with other staff and students providing necessary assistance. FRN (1990) provides that the

safety Manager (or TVE teacher) should take the following vital steps to help victims as soon as possible:

- i. Assist the victim through the effective use of the first aid service. It is necessary to ensure that the first aid kit is well equipped to take care of un-foreseen challenges.
- ii. Take the appropriate step to control emergencies
- iii. Avoid becoming a casualty in the process of saving the situation through taking appropriate precautions.
- iv. Transport the injured person, taking note of all the recommendation methods, depending in the magnitude and types of injury sustained.
- v. Inform the appropriate authorities that the accident has occurred.

### **3. Post-Accident Role**

The post-accident role has to do with what the TVE teacher does after taking all the necessary measures to contain the accident that occurred. The following are the major post-accident roles:

- a. the TVE teacher should report to the principal of the college all he needs to know about the accident. FRN (1990) has prescribed a form for reporting accidents. The form is a result of

industrial pollution. The school authority should access the form from the nearest Federal Ministry of Labour and Productivity office.

- b. the next post-accident role is the appraisal of the condition that causes the accident. The TVE teacher in carrying out the role assesses the human factor involved in the accident and the state of the facilities involved. The information obtained is analyzed and put to use to prevent future the occurrence of accidents.
- c. the TVE teacher uses the information to develop accident and cost control method, a safety programme and the procedure to implement the safety programme to safeguard the students, staff and facilities.

## **Conclusion**

The TVE teachers today is faced with greater safety challenges. This is because the issues of safety are becoming more sophisticated as a result of rapid industrial growth across the globe. The TVE teacher in Nigeria should put more emphasis on the prevention of anticipated hazards in the college workshop to ensure the safety of students, staff and facilities. Nigeria has an ardent desire to be among the first 20 developed nations by the year 2020. It is a known fact that industrial development is accompanied by hazards, as experienced during the industrial revolution in Europe. These industrial hazards should not slow down the growth of industries in Nigeria. The TVE teacher has role to play

in the achievement of our nation vision by striving hard to create a safety conscious workforce right from our technical and vocational schools, who shall no doubt be in the centre in the realization of our nation's industrial growth and development.

### **Recommendation**

In view of the need to protect students, staff and facilities and the need to develop safety consciousness in students and staff, the TVE teacher needs to be given attention in the area of developing competence in handling safety issues. Based on the important role the TVE teacher plays in ensuring the safety of students, staff and facilities, this paper recommends that:

- i. Training workshops should be organized for TVE teachers to enable them to update their knowledge and competence in safety issues.
- ii. Safety equipment and protective wear should be made available to all staff and student in the workshop.
- iii. Fire extinguishers should be provided and serviced regularly for effective control in case of its outbreak.
- iv. To ensure a safety conscious generation of Nigeria public, occupational safety should be incorporated into the senior secondary

school and post-secondary school curricular.

- v. Non-governmental organization (NGOs), students bodies, etc. should be encouraged to form safety associations to enlighten themselves and the public on safety matters.

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